

Notice of Allowability

Application No.

09/976,442

Applicant(s)

AMARTUR, SUNDAR

Examiner

Art Unit

Hoon Song

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 12 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- (a) ☐ The translation of the foreign language provisional application has been received.
6. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No. ____.
- (b) ☐ including changes required by the proposed drawing correction filed ____, which has been approved by the Examiner.
- (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 5 ☒ Information Disclosure Statements (PTO-1449), Paper No. ____
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 4 ☐ Interview Summary (PTO-413), Paper No. ____
- 6 ☐ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

DETAILED ACTION

Allowable Subject Matter

Claims 1-20 are allowed over prior art.

The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a method for detecting an endpoint during a chemical mechanical polishing process comprising the operation of normalizing a current reflected spectrum data using a normalization reference which comprising a first reflected spectrum data sample obtained earlier during the chemical mechanical polishing process and updating the normalization reference using a second reflected spectrum data sample obtained earlier during the chemical mechanical polishing process as claimed in independent claim 1.

None of the prior art teaches or suggests a method for detecting an endpoint during a chemical mechanical polishing process, comprising the operation of normalizing a current reflected spectrum data sample using a normalization reference which comprising a first median reflected spectrum data sample and updating the normalization reference using a second median reflected spectrum data sample selected from a second plurality of reflected spectrum data samples obtained earlier during the chemical mechanical polishing process as claimed in independent claim 11.

None of the prior art teaches or suggests a method for detecting an endpoint during a chemical mechanical polishing process, comprising the operation of normalizing a current reflected spectrum data sample using a normalization reference which comprising a first reflected spectrum data sample obtained earlier during the

chemical mechanical polishing process and updating the normalization reference using a second reflected spectrum data sample obtained earlier during the chemical mechanical polishing process wherein the second reflected spectrum data sample is obtained after the first reflected spectrum data sample as claimed in independent claim 16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tzeng (US 6028669) teaches signal processing for monitoring removal of a transparent layer but fails to teach the method of updating normalization reference described above.

Sandhu et al. (US 6208425B1) teaches an endpoint detector and method for measuring a change in wafer thickness in chemical mechanical polishing but fails to teach the method of updating normalization described above.

Chalmers (US 6204922) teaches a method of measuring a thickness of film but fails to teach the method of updating normalization described above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is 703-308-2736. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 703-308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hoon Song

HS

David Bruce
DAVID V. BRUCE
PRIMARY EXAMINER